



SEQUENCE LISTING

<110> Gaiger, Alexander
McNeill, Patricia D.
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Evans, Lawrence S.
Spies, A. Gregory
Boydston, Jeremy

<120> COMPOSITIONS AND METHODS FOR WT1
SPECIFIC IMMUNOTHERAPY

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<151> 2001-08-24

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<212> PRT
<213> Mus musculus

<400> 308

Tyr Ser Ser Asp Asn Leu Tyr Gln Met
1 5

<210> 309
<211> 6
<212> PRT
<213> Homo sapien

<400> 309

Gly Ala Ala Gln Trp Ala
1 5

<210> 310
<211> 12
<212> PRT
<213> Homo sapien

<400> 310

Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro
 1 5 10

<210> 311
 <211> 15
 <212> PRT
 <213> Homo sapien

<400> 311
 Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly
 1 5 10 15

<210> 312
 <211> 5
 <212> PRT
 <213> Homo sapien

<400> 312
 His Ala Ala Gln Phe
 1 5

<210> 313
 <211> 32
 <212> PRT
 <213> Homo sapien

<400> 313
 Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu
 1 5 10 15
 Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu
 20 25 30

<210> 314
 <211> 32
 <212> PRT
 <213> Homo sapien

<400> 314
 Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg
 1 5 10 15
 Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser
 20 25 30

<210> 315
 <211> 4
 <212> PRT
 <213> Homo sapien

<400> 315
 Arg Tyr Phe Lys
 1

<210> 316
 <211> 14

<212> PRT

<213> Homo sapien

<400> 316

Glu	Arg	Arg	Phe	Ser	Arg	Ser	Asp	Gln	Leu	Lys	Arg	His	Gln
1				5					10				

<210> 317

<211> 22

<212> PRT

<213> Homo sapien

<400> 317

Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr	Arg	Thr
1				5					10					15	
His	Thr	Gly	Lys	Thr	Ser										
			20												

<210> 318

<211> 21

<212> PRT

<213> Homo sapien

<400> 318

Cys	Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val	Arg	His	His	Asn
1				5					10					15	
Met	His	Gln	Arg	Asn											
			20												

<210> 319

<211> 449

<212> PRT

<213> Homo sapien

<400> 319

Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn	Ala	Leu	Leu	Pro	Ala	Val	Pro
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Ser	Leu	Gly	Gly	Gly	Gly	Gly	Cys	Ala	Leu	Pro	Val	Ser	Gly	Ala	Ala
			20					25					30		
Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe	Ala	Pro	Pro	Gly	Ala	Ser	Ala	Tyr
		35					40					45			
Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro	Pro	Pro
		50				55					60				
Pro	Pro	Pro	Pro	His	Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly
65					70					75				80	
Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Val	His	Phe
				85					90					95	
Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe
			100					105					110		
Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe
			115				120					125			
Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	Ala	Ile
	130					135					140				
Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly	Thr	Pro	Ser	Tyr

145					150					155					160
Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	Ser	Phe
				165					170					175	
Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu	Gln	Gln
			180					185					190		
Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	Asp	Ser
		195					200					205			
Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	Ser	Asp
	210					215					220				
Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	Asn	Gln
225					230					235					240
Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	Val	Ala	Ala	Gly	Ser	Ser	Ser
				245					250					255	
Ser	Val	Lys	Trp	Thr	Glu	Gly	Gln	Ser	Asn	His	Ser	Thr	Gly	Tyr	Glu
			260					265					270		
Ser	Asp	Asn	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile
		275					280					285			
His	Thr	His	Gly	Val	Phe	Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val	Pro
	290					295					300				
Gly	Val	Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys
305					310					315					320
Arg	Pro	Phe	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe	Lys
				325					330					335	
Leu	Ser	His	Leu	Gln	Met	His	Ser	Arg	Lys	His	Thr	Gly	Glu	Lys	Pro
			340					345					350		
Tyr	Gln	Cys	Asp	Phe	Lys	Asp	Cys	Glu	Arg	Arg	Phe	Ser	Arg	Ser	Asp
		355					360					365			
Gln	Leu	Lys	Arg	His	Gln	Arg	Arg	His	Thr	Gly	Val	Lys	Pro	Phe	Gln
	370					375					380				
Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr
385					390					395					400
His	Thr	Arg	Thr	His	Thr	Gly	Lys	Thr	Ser	Glu	Lys	Pro	Phe	Ser	Cys
				405					410					415	
Arg	Trp	Pro	Ser	Cys	Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val
			420					425					430		
Arg	His	His	Asn	Met	His	Gln	Arg	Asn	Met	Thr	Lys	Leu	Gln	Leu	Ala
		435					440					445			

Leu

<210> 320

<211> 449

<212> PRT

<213> Mus musculus

<400> 320

Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn	Ala	Leu	Leu	Pro	Ala	Val	Ser
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Ser	Leu	Gly	Gly	Gly	Gly	Gly	Cys	Gly	Leu	Pro	Val	Ser	Gly	Ala	Ala
			20					25					30		
Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe	Ala	Pro	Pro	Gly	Ala	Ser	Ala	Tyr
		35					40					45			
Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro	Pro	Pro
	50					55					60				

Pro	Pro	Pro	Pro	His	Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly
65					70					75					80
Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Leu	His	Phe
				85					90					95	
Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe
			100					105					110		
Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe
			115				120					125			
Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	Thr	Ile
	130					135					140				
Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly	Ala	Pro	Ser	Tyr
145					150					155					160
Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	Ser	Phe
				165					170					175	
Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu	Gln	Gln
			180					185					190		
Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	Asp	Ser
		195					200					205			
Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	Ser	Asp
	210					215					220				
Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	Asn	Gln
225					230					235					240
Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	Met	Ala	Ala	Gly	Ser	Ser	Ser
				245					250					255	
Ser	Val	Lys	Trp	Thr	Glu	Gly	Gln	Ser	Asn	His	Gly	Ile	Gly	Tyr	Glu
			260				265						270		
Ser	Asp	Asn	His	Thr	Ala	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile
		275					280					285			
His	Thr	His	Gly	Val	Phe	Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val	Ser
	290					295					300				
Gly	Val	Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys
305					310					315					320
Arg	Pro	Phe	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe	Lys
				325					330					335	
Leu	Ser	His	Leu	Gln	Met	His	Ser	Arg	Lys	His	Thr	Gly	Glu	Lys	Pro
			340					345					350		
Tyr	Gln	Cys	Asp	Phe	Lys	Asp	Cys	Glu	Arg	Arg	Phe	Ser	Arg	Ser	Asp
		355					360					365			
Gln	Leu	Lys	Arg	His	Gln	Arg	Arg	His	Thr	Gly	Val	Lys	Pro	Phe	Gln
	370					375					380				
Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr
385					390					395					400
His	Thr	Arg	Thr	His	Thr	Gly	Lys	Thr	Ser	Glu	Lys	Pro	Phe	Ser	Cys
				405					410					415	
Arg	Trp	His	Ser	Cys	Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val
			420					425					430		
Arg	His	His	Asn	Met	His	Gln	Arg	Asn	Met	Thr	Lys	Leu	His	Val	Ala
		435					440					445			

Leu

<210> 321

<211> 9

<212> PRT

<213> Homo sapien and Mus musculus

<400> 321

Pro Ser Gln Ala Ser Ser Gly Gln Ala
1 5

<210> 322

<211> 9

<212> PRT

<213> Homo sapien and Mus musculus

<400> 322

Ser Ser Gly Gln Ala Arg Met Phe Pro
1 5

<210> 323

<211> 9

<212> PRT

<213> Homo sapien and Mus musculus

<400> 323

Gln Ala Arg Met Phe Pro Asn Ala Pro
1 5

<210> 324

<211> 9

<212> PRT

<213> Homo sapien and Mus musculus

<400> 324

Met Phe Pro Asn Ala Pro Tyr Leu Pro
1 5

<210> 325

<211> 9

<212> PRT

<213> Homo sapien and Mus musculus

<400> 325

Pro Asn Ala Pro Tyr Leu Pro Ser Cys
1 5

<210> 326

<211> 9

<212> PRT

<213> Homo sapien and Mus musculus

<400> 326

Ala Pro Tyr Leu Pro Ser Cys Leu Glu
1 5

<210> 327

<211> 1029

<212> DNA

<213> Homo sapiens

<400> 327

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atgcagcatc accaccatca ccacatgagc gataaaatta ttcacctgac tgacgacagt 60
tttgacacgg atgtactcaa agcggacggg gcgacccctc tcgatttctg ggcagagtgg 120
tgcggtccgt gcaaaatgat cgccccgatt ctggatgaaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaaccctg gcactgcgcc gaaatatggc 240
atccgtggta tcccgaactc gctgctgttc aaaaacgggt aagtggcggc aaccaaagtg 300
ggtgcaactg ctaaagggtc gttgaaagag ttccctcgac ctaacctggc cggttctggt 360
tctggccata tgcagcatca ccaccatcac cacgtgtcta tcgaaggteg tgctagctct 420
ggtggcagcg gtctggttcc gcgtggttagc tctggttcgg gggacgacga cgacaaatct 480
agtaggcaca gcacagggtg cgagagcgat aaccacacaa cgcccatcct ctgaggagcc 540
caatacagaa tacacacgca cgggtgtcttc agaggcattc aggatgtgag acgtgtgcct 600
ggagtagccc cgactcttgt acggctcgga tctgagacca gtgagaaacg ccccttcagt 660
tgtgcttacc caggctgcaa taagagatat tttaagctgt cccacttaca gatgcacagc 720
aggaagcaca ctggtgagaa accataccag tttgacttca aggactgtga acgaagggtt 780
tttcgttcag accagctcaa aagacaccaa aggagacata cagggtgtga accattccag 840
tgtaaaactt gtcagcgaag gttctcccg tccgaccacc tgaagacca caccaggact 900
catacagggtg aaaagccctt cagctgtcgg tggccaagtt gtcagaaaaa gtttgcccg 960
tcagatgaat tagtccgcc tacaacatg catcagagaa acatgaccaa actccagctg 1020
gcgctttga                                     1029

```

<210> 328

<211> 1233

<212> DNA

<213> Homo sapiens

<400> 328

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atgcagcatc accaccatca ccacatgagc gataaaatta ttcacctgac tgacgacagt 60
tttgacacgg atgtactcaa agcggacggg gcgacccctc tcgatttctg ggcagagtgg 120
tgcggtccgt gcaaaatgat cgccccgatt ctggatgaaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaaccctg gcactgcgcc gaaatatggc 240
atccgtggta tcccgaactc gctgctgttc aaaaacgggt aagtggcggc aaccaaagtg 300
ggtgcaactg ctaaagggtc gttgaaagag ttccctcgac ctaacctggc cggttctggt 360
tctggccata tgcagcatca ccaccatcac cacgtgtcta tcgaaggteg tgctagctct 420
ggtggcagcg gtctggttcc gcgtggttagc tctggttcgg gggacgacga cgacaaatct 480
agtaggggct cgcaggttcg tgacctgaac gcactgctgc cggcagttcc gtccctgggt 540
ggtggtggtg gttgcgcact gccggttagc ggtgcagcac agtgggctcc ggttctggac 600
ttcgaccgcg cgggtgcatc cgcatacggg tccttgggtg gtccggcacc gccgccggca 660
ccgccgccgc cgcgccgcc gccgccgcac tccttcatca aacaggaacc gagctggggt 720
ggtgcagaac cgcacgaaga acagtgcctg agcgcattca ccgttactt ctccggccag 780
ttcactggca cagccggagc ctgtcgctac gggcccttcg gtccctcctc gccagccag 840
gcgtcatccg gccaggccag gatgtttcct aacgcgccct acctgccag ctgcctcgag 900
agccagcccg ctattcgcaa tcagggttac agcaggttca ccttcgacgg gacgccagc 960
tacggtcaca cgccctcgca ccatgcggcg cagttcccca accactcatt caagcatgag 1020
gatcccatgg gccagcaggg ctgctgggtg gagcagcagt actcgggtgc gccccgggtc 1080
tatggctgcc acacccccac cgacagctgc accggcagcc aggttttgct gctgaggacg 1140
ccctacagca gtgacaattt ataccaaatg acatcccagc ttgaatgcat gacctggaat 1200
cagatgaact taggagccac cttaaagggc tga                                     1233

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<210> 329

<211> 1776

<212> DNA

<213> Homo sapiens

<400> 329

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tttgacacgg atgtactcaa agcggacggg gcgatcctcg tcgatttctg ggcagagtgg 120
tgcggtccgt gcaaaatgat cgccccgatt ctggatgaaa tcgctgacga atatcagggc 180
aaactgaccg ttgcaaaact gaacatcgat caaaaccctg gcactgcgcc gaaatatggc 240
atccgtggta tcccgactct gctgctgttc aaaaacggtg aagtggcggc aaccaaagtg 300
ggtgcactgt ctaaaggtca gttgaaagag ttcctcgacg ctaacctggc cggttctggt 360
tctggccata tgcagcatca ccaccatcac cacgtgtcta tcgaaggtcg tgctagctct 420
ggtggcagcg gtctggttcc gcgtggtagc tctggttcgg gggacgacga cgacaaatct 480
agtaggatgg gctccgacgt tcgtgacctg aacgcactgc tgccggcagt tccgtccctg 540
ggtggtggtg gtggttgccg actgccggtt agcgggtgcag cacagtgggc tccggttctg 600
gacttcgcac cgccgggtgc atccgcatac ggttccctgg gtggtccggc accgccgccg 660
gcaccgccgc cgccgccgcc gccgccgccg cactccttca tcaaacagga accgagctgg 720
ggtggtgcag aaccgcacga agaacagtgc ctgagcgcac tcaccgttca cttctccggc 780
cagttcactg gcacagccgg agcctgtcgc tacgggccct tcggtcctcc tccgcccgcc 840
caggcgcatc ccggccaggc caggatgttt cctaaccgcg cctacctgcc cagctgcctc 900
gagagccagc ccgctattcg caatcagggt tacagcacgg tcaccttcca cgggacgccc 960
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gtctatggct gccacacccc caccgacagc tgcaccggca gccaggcttt gctgctgagg 1140
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aatcagatga acttaggagc caccttaaag ggccacagca cagggtacga gagcgataac 1260
cacacaacgc ccatcctctg cggagcccaa tacagaatac acacgcacgg tgtcttcaga 1320
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gagaccagtg agaaacgccc cttcatgtgt gcttaccagg gctgcaataa gagatatttt 1440
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gacttcaagg actgtgaacg aagggttttt cgttcagacc agctcaaaag acaccaaagg 1560
agacatacag gtgtgaaacc attccagtgt aaaacttgtc agcgaaagtt ctcccggctc 1620
gaccacctga agaccacac caggactcat acaggtgaaa agcccttcag ctgtcgggtg 1680
ccaagttgtc agaaaaagtt tgcccgggtc gatgaattag tccgccatca caacatgcat 1740
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<210> 330

<211> 771

<212> DNA

<213> Homo sapiens

<400> 330

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gcagttccgt ccctgggtgg tgggtggtgg tgcgcactgc cggttagcgg tgcagcacag 120
tgggctccgg ttctggactt cgcaccgccg ggtgcatccg catacggttc cctgggtggt 180
ccggcaccgc cgccggcacc gccgccgccg ccgccgccgc cgccgcactc cttcatcaaa 240
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gttcacttct ccggccagtt cactggcaca gccggagcct gtcgctacgg gcccttcggt 360
cctcctccgc ccagccaggc gtcacccggc caggccagga tgtttcctaa cgcgccctac 420
ctgccagct gcctcgagag ccagcccgtt attcgcaatc agggttacag cacggtcacc 480
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cactcattca agcatgagga tcccatgggc cagcagggct cgctgggtga gcagcagtac 600
tcggtgccgc ccccgggtcta tggctgccac acccccaccg acagctgcac cggcagccag 660
gctttgctgc tgaggacgcc ctacagcagt gacaatttat accaaatgac atcccagctt 720
gaatgcatga cctggaatca gatgaactta ggagccacct taaagggtg a 771

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<210> 331
<211> 567
<212> DNA
<213> Homo sapiens
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<400> 331						
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gatgtgcgac	gtgtgcctgg	agtagccccg	actcttgtac	ggtcggcatc	tgagaccagt	180
gagaaacgcc	ccttcattgt	tgcttaccca	ggctgcaata	agagatattt	taagctgtcc	240
cacttacaga	tgcacagcag	gaagcacact	ggtgagaaac	cataccagtg	tgacttcaag	300
gactgtgaac	gaagggtttt	tcgttcagac	cagctcaaaa	gacaccaaag	gagacataca	360
gggtgtgaaac	cattccagtg	taaaacttgt	cagcgaaagt	tctcccggtc	cgaccacctg	420
aagaccacaca	ccaggactca	tacaggtgaa	aagcccttca	gctgtcggtg	gccaaagtgt	480
cagaaaaaagt	ttgcccggtc	agatgaatta	gtccgccatc	acaacatgca	tcagagaaac	540
atgaccaaac	tccagctggc	gcttttga				567

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<210> 332
<211> 342
<212> PRT
<213> Homo sapiens
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<400>	332															
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				5					10					15		
Thr	Asp	Asp	Ser	Phe	Asp	Thr	Asp	Val	Leu	Lys	Ala	Asp	Gly	Ala	Ile	
			20					25					30			
Leu	Val	Asp	Phe	Trp	Ala	Glu	Trp	Cys	Gly	Pro	Cys	Lys	Met	Ile	Ala	
		35					40					45				
Pro	Ile	Leu	Asp	Glu	Ile	Ala	Asp	Glu	Tyr	Gln	Gly	Lys	Leu	Thr	Val	
	50					55					60					
Ala	Lys	Leu	Asn	Ile	Asp	Gln	Asn	Pro	Gly	Thr	Ala	Pro	Lys	Tyr	Gly	
	65				70					75					80	
Ile	Arg	Gly	Ile	Pro	Thr	Leu	Leu	Leu	Phe	Lys	Asn	Gly	Glu	Val	Ala	
				85					90					95		
Ala	Thr	Lys	Val	Gly	Ala	Leu	Ser	Lys	Gly	Gln	Leu	Lys	Glu	Phe	Leu	
			100					105					110			
Asp	Ala	Asn	Leu	Ala	Gly	Ser	Gly	Ser	Gly	His	Met	Gln	His	His	His	
		115					120					125				
His	His	His	Val	Ser	Ile	Glu	Gly	Arg	Ala	Ser	Ser	Gly	Gly	Ser	Gly	
	130					135					140					
Leu	Val	Pro	Arg	Gly	Ser	Ser	Gly	Ser	Gly	Asp	Asp	Asp	Asp	Lys	Ser	
145					150					155				160		
Ser	Arg	His	Ser	Thr	Gly	Tyr	Glu	Ser	Asp	Asn	His	Thr	Thr	Pro	Ile	
				165					170					175		
Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile	His	Thr	His	Gly	Val	Phe	Arg	Gly	
			180					185					190			
Ile	Gln	Asp	Val	Arg	Arg	Val	Pro	Gly	Val	Ala	Pro	Thr	Leu	Val	Arg	
		195					200					205				
Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys	Arg	Pro	Phe	Met	Cys	Ala	Tyr	Pro	
	210					215					220					

Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met His Ser
 225 230 235 240
 Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys
 245 250 255
 Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg
 260 265 270
 His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe
 275 280 285
 Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr Gly Glu
 290 295 300
 Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg
 305 310 315 320
 Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn Met Thr
 325 330 335
 Lys Leu Gln Leu Ala Leu
 340

<210> 333
 <211> 410
 <212> PRT
 <213> Homo sapiens

<400> 333
 Met Gln His His His His His His Met Ser Asp Lys Ile Ile His Leu
 5 10 15
 Thr Asp Asp Ser Phe Asp Thr Asp Val Leu Lys Ala Asp Gly Ala Ile
 20 25 30
 Leu Val Asp Phe Trp Ala Glu Trp Cys Gly Pro Cys Lys Met Ile Ala
 35 40 45
 Pro Ile Leu Asp Glu Ile Ala Asp Glu Tyr Gln Gly Lys Leu Thr Val
 50 55 60
 Ala Lys Leu Asn Ile Asp Gln Asn Pro Gly Thr Ala Pro Lys Tyr Gly
 65 70 75 80
 Ile Arg Gly Ile Pro Thr Leu Leu Leu Phe Lys Asn Gly Glu Val Ala
 85 90 95
 Ala Thr Lys Val Gly Ala Leu Ser Lys Gly Gln Leu Lys Glu Phe Leu
 100 105 110
 Asp Ala Asn Leu Ala Gly Ser Gly Ser Gly His Met Gln His His His
 115 120 125
 His His His Val Ser Ile Glu Gly Arg Ala Ser Ser Gly Gly Ser Gly
 130 135 140
 Leu Val Pro Arg Gly Ser Ser Gly Ser Gly Asp Asp Asp Asp Lys Ser
 145 150 155 160
 Ser Arg Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val
 165 170 175
 Pro Ser Leu Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala
 180 185 190
 Ala Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala
 195 200 205
 Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro
 210 215 220
 Pro Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly

225					230					235				240
Gly	Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Val
				245					250					255
Phe	Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly
			260					265					270	
Phe	Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg
		275					280					285		Met
Phe	Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro
	290					295				300				Ala
Ile	Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly	Thr	Pro
305					310					315				320
Tyr	Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His
				325					330					335
Phe	Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu
			340					345					350	Gln
Gln	Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr
	355						360					365		Asp
Ser	Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser
	370				375					380				Ser
Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp
385					390				395					400
Gln	Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly					
				405					410					

<210> 334
 <211> 591
 <212> PRT
 <213> Homo sapiens

<400> 334														
Met	Gln	His	His	His	His	His	Met	Ser	Asp	Lys	Ile	Ile	His	Leu
				5				10					15	
Thr	Asp	Asp	Ser	Phe	Asp	Thr	Asp	Val	Leu	Lys	Ala	Asp	Gly	Ala
			20					25					30	Ile
Leu	Val	Asp	Phe	Trp	Ala	Glu	Trp	Cys	Gly	Pro	Cys	Lys	Met	Ile
		35					40					45		Ala
Pro	Ile	Leu	Asp	Glu	Ile	Ala	Asp	Glu	Tyr	Gln	Gly	Lys	Leu	Thr
	50					55					60			Val
Ala	Lys	Leu	Asn	Ile	Asp	Gln	Asn	Pro	Gly	Thr	Ala	Pro	Lys	Tyr
65					70				75					80
Ile	Arg	Gly	Ile	Pro	Thr	Leu	Leu	Leu	Phe	Lys	Asn	Gly	Glu	Val
				85					90				95	Ala
Ala	Thr	Lys	Val	Gly	Ala	Leu	Ser	Lys	Gly	Gln	Leu	Lys	Glu	Phe
		100						105					110	Leu
Asp	Ala	Asn	Leu	Ala	Gly	Ser	Gly	Ser	Gly	His	Met	Gln	His	His
		115					120					125		His
His	His	His	Val	Ser	Ile	Glu	Gly	Arg	Ala	Ser	Ser	Gly	Gly	Ser
	130					135					140			Gly
Leu	Val	Pro	Arg	Gly	Ser	Ser	Gly	Ser	Gly	Asp	Asp	Asp	Asp	Lys
145					150				155					160
Ser	Arg	Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn	Ala	Leu	Leu	Pro
				165					170					175
Val	Pro	Ser	Leu	Gly	Gly	Gly	Gly	Gly	Cys	Ala	Leu	Pro	Val	Ser

			180					185					190			
Ala	Ala	Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe	Ala	Pro	Pro	Gly	Ala	Ser	
		195					200					205				
Ala	Tyr	Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro	
	210					215					220					
Pro	Pro	Pro	Pro	Pro	Pro	His	Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp	
225					230					235					240	
Gly	Gly	Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Val	
			245						250					255		
His	Phe	Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	
			260					265					270			
Pro	Phe	Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	
		275					280					285				
Met	Phe	Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	
	290					295					300					
Ala	Ile	Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly	Thr	Pro	
305				310						315					320	
Ser	Tyr	Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	
			325						330					335		
Ser	Phe	Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu	
			340					345					350			
Gln	Gln	Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	
		355					360					365				
Asp	Ser	Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	
	370				375						380					
Ser	Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	
385					390					395					400	
Asn	Gln	Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	His	Ser	Thr	Gly	Tyr	
			405					410						415		
Glu	Ser	Asp	Asn	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	
		420						425					430			
Ile	His	Thr	His	Gly	Val	Phe	Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val	
		435					440					445				
Pro	Gly	Val	Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	
	450					455						460				
Lys	Arg	Pro	Phe	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe	
465					470					475					480	
Lys	Leu	Ser	His	Leu	Gln	Met	His	Ser	Arg	Lys	His	Thr	Gly	Glu	Lys	
			485						490					495		
Pro	Tyr	Gln	Cys	Asp	Phe	Lys	Asp	Cys	Glu	Arg	Arg	Phe	Phe	Arg	Ser	
		500						505					510			
Asp	Gln	Leu	Lys	Arg	His	Gln	Arg	Arg	His	Thr	Gly	Val	Lys	Pro	Phe	
		515					520					525				
Gln	Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	
	530					535					540					
Thr	His	Thr	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Phe	Ser	Cys	Arg	Trp	
545					550					555					560	
Pro	Ser	Cys	Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val	Arg	His	
			565						570					575		
His	Asn	Met	His	Gln	Arg	Asn	Met	Thr	Lys	Leu	Gln	Leu	Ala	Leu		
			580					585					590			

<210> 335
 <211> 256
 <212> PRT
 <213> Homo sapiens

<400> 335

Met	Gln	His	His	His	His	His	His	His	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn
				5						10					15	
Ala	Leu	Leu	Pro	Ala	Val	Pro	Ser	Leu	Gly	Gly	Gly	Gly	Gly	Gly	Cys	Ala
			20					25						30		
Leu	Pro	Val	Ser	Gly	Ala	Ala	Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe	Ala	
		35					40					45				
Pro	Pro	Gly	Ala	Ser	Ala	Tyr	Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	
	50					55					60					
Pro	Ala	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	His	Ser	Phe	Ile	Lys	
65					70					75					80	
Gln	Glu	Pro	Ser	Trp	Gly	Gly	Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	
				85				90						95		
Ser	Ala	Phe	Thr	Val	His	Phe	Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	
			100					105					110			
Ala	Cys	Arg	Tyr	Gly	Pro	Phe	Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	
	115						120					125				
Ser	Gly	Gln	Ala	Arg	Met	Phe	Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	
	130					135					140					
Leu	Glu	Ser	Gln	Pro	Ala	Ile	Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	
145					150					155					160	
Phe	Asp	Gly	Thr	Pro	Ser	Tyr	Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	
				165					170					175		
Gln	Phe	Pro	Asn	His	Ser	Phe	Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	
		180						185					190			
Gly	Ser	Leu	Gly	Glu	Gln	Gln	Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	
	195						200					205				
Cys	His	Thr	Pro	Thr	Asp	Ser	Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	
	210					215					220					
Arg	Thr	Pro	Tyr	Ser	Ser	Asp	Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	
225					230					235					240	
Glu	Cys	Met	Thr	Trp	Asn	Gln	Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	
				245					250					255		

<210> 336
 <211> 188
 <212> PRT
 <213> Homo sapiens

<400> 336

Met	Gln	His	His	His	His	His	His	His	Ser	Thr	Gly	Tyr	Glu	Ser	Asp	
				5					10					15		
Asn	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile	His	Thr	
			20					25					30			
His	Gly	Val	Phe	Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val	Pro	Gly	Val	
		35					40					45				
Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys	Arg	Pro	
	50						55				60					

Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser
 65 70 75 80
 His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln
 85 90 95
 Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu
 100 105 110
 Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys
 115 120 125
 Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr
 130 135 140
 Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys
 145 150 155 160
 Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met
 165 170 175
 His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
 180 185

<210> 337
 <211> 324
 <212> DNA
 <213> Homo sapiens

<400> 337
 atgcagcatc accaccatca ccacgggttcc gacgtgctggg acctgaacgc actgctgccc 60
 gcagttccat ccctgggtgg cgggtggaggc tgcgcactgc cggtttagcgg tgcagcacag 120
 tgggctccag ttctggactt cgcaccgcct ggtgcatccg catacgggtc cctgggtggg 180
 ccagcacctc cgcccgaac gccccaccg cctccaccgc ccccgcactc cttcatcaaa 240
 caggaacctc gctgggggtg tgcaagaacc cacgaagaac agtgcctgag cgcattctga 300
 gaattctgca gatattcatc acac 324

<210> 338
 <211> 462
 <212> DNA
 <213> Homo sapiens

<400> 338
 atgcagcatc accaccatca ccaccacgaa gaacagtgcc tgagcgcatt caccgttcac 60
 ttctccggcc agttcactgg cacagccgga gcctgtcgct acggggccctt cggctcctct 120
 ccgcccagcc aggcgtcatc cggccaggcc aggatgtttc ctaacgcgcc ctacctgcc 180
 agctgcctcg agagccagcc cgctattcgc aatcagggtt acagcacggt caccttcgac 240
 gggacgccc gctacggtca cagccctcg caccatgcgg cgcagttccc caaccactca 300
 ttcaagcatg aggatcccat gggccagcag ggctcgctgg gtgagcagca gtactcgggtg 360
 ccgcccccg tctatggctg ccacaccccc accgacagct gcaccggcag ccaggctttg 420
 ctgctgagga cgccctacag cagtgaacat ttatactgat ga 462

<210> 339
 <211> 405
 <212> DNA
 <213> Homo sapiens

<400> 339
 atgcagcatc accaccatca ccaccaggct ttgctgctga ggacgcccta cagcagtgcac 60
 aatttatacc aaatgacatc ccagcttgaa tgcattgacct ggaatcagat gaacttagga 120
 gccaccttaa agggccacag cacagggtac gagagcgata accacacaac gcccatcctc 180

```

tgcggagccc aatacagaat acacacgcac ggtgtcttca gaggcattca ggatgtgcga 240
cgtgtgcctg gagtagcccc gactcttgta cggtcggcat ctgagaccag tgagaaacgc 300
cccttcatgt gtgcttacct aggttgcaat aagagatatt ttaagctgtc ccacttacag 360
atgcacagca ggaagcacac tgggtgagaaa ccataccagt gatga 405

```

<210> 340
 <211> 339
 <212> DNA
 <213> Homo sapiens

```

<400> 340
atgcagcatc accaccatca ccaccacagc aggaagcaca ctggtgagaa accataccag 60
tgtgacttca aggactgtga acgaagggtt ttctgttcag accagctcaa aagacaccaa 120
aggagacata caggtgtgaa accattccag tgtaaaactt gtcagcgaaa gttctcccg 180
tccgaccacc tgaagacca caccaggact catacagggtg aaaagccctt cagctgtcgg 240
tggccaagtt gtcagaaaaa gtttgcccgg tcagatgaat tagtccgcca tcacaacatg 300
catcagagaa acatgaccaa actccagctg gcgcttga 339

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<210> 341
 <211> 1110
 <212> DNA
 <213> Homo sapiens

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<400> 341
atgcagcatc accaccatca ccaccactcc ttcacaaac aggaaccgag ctgggggtgt 60
gcagaaccgc acgaagaaca gtgcctgagc gcattcaccc ttcacttctc cggccagttc 120
actggcacag ccggagcctg tcgctacggg cccttcgggtc ctccctccgc cagccaggcg 180
tcatccggcc aggccaggat gtttcctaac gcgccctacc tgcccagctg cctcgagagc 240
cagcccgtca ttcgcaatca gggttacagc acggtcacct tcgacgggac gcccagctac 300
ggtcacacgc cctcgacca tgcggcgagc ttccccaacc actcattcaa gcatgaggat 360
cccattggcc agcagggtc gctgggtgag cagcagtact cggtgccgcc cccggtctat 420
ggctgccaca cccccaccga cagctgcacc ggcagccagg ctttgctgct gaggacgccc 480
tacagcagtg acaatttata ccaaattgaca tcccagcttg aatgcatgac ctggaatcag 540
atgaacttag gagccacctt aaagggccac agcacagggt acgagagcga taaccacaca 600
acgcccaccc tctgcggagc ccaatacaga atacacacgc acggtgtctt cagaggcatt 660
caggatgtgc gacgtgtgcc tggagtagcc ccgactcttg tacggtcggc atctgagacc 720
agtgagaaac gcccttcat gtgtgcttac ccaggctgca ataagagata ttttaagctg 780
tcccacttac agatgcacag caggaagcac actggtgaga aaccatacca gtgtgacttc 840
aaggactgtg aacgaagggt ttttcgttca gaccagctca aaagacacca aaggagacat 900
acaggtgtga aaccattcca gtgtaaaact tgtcagcgaa agttctcccg gtccgaccac 960
ctgaagaccc acaccaggac tcatacagg gaaaagccct tcagctgtcg gtggccaagt 1020
tgtcagaaaa agtttgcccg gtcagatgaa ttagtccgcc atcacaacat gcatcagaga 1080
aacatgacca aactccagct ggcgcttga 1110

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<210> 342
 <211> 99
 <212> PRT
 <213> Homo sapiens

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<400> 342
Met Gln His His His His His Gly Ser Asp Val Arg Asp Leu Asn

```

```

          5          10          15
Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly Gly Gly Cys Ala
      20          25          30
Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val Leu Asp Phe Ala
      35          40          45
Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly Pro Ala Pro Pro
      50          55          60
Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro Pro His Ser Phe Ile Lys
      65          70          75          80
Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu Glu Gln Cys Leu
          85          90          95
Ser Ala Phe

```

<210> 343
 <211> 152
 <212> PRT
 <213> Homo sapiens

```

<400> 343
Met Gln His His His His His His His Glu Glu Gln Cys Leu Ser Ala
          5          10          15
Phe Thr Val His Phe Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys
      20          25          30
Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly
      35          40          45
Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu
      50          55          60
Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp
      65          70          75          80
Gly Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe
          85          90          95
Pro Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser
      100          105          110
Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His
      115          120          125
Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr
      130          135          140
Pro Tyr Ser Ser Asp Asn Leu Tyr
      145          150

```

<210> 344
 <211> 133
 <212> PRT
 <213> Homo sapiens

```

<400> 344
Met Gln His His His His His His Gln Ala Leu Leu Leu Arg Thr Pro
          5          10          15
Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met
      20          25          30
Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr
      35          40          45

```

[illegible]

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<210> 345
<211> 112
<212> PRT
<213> Homo sapiens
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<400> 345															
Met	Gln	His	His	His	His	His	His	His	Ser	Arg	Lys	His	Thr	Gly	Glu
				5					10					15	
Lys	Pro	Tyr	Gln	Cys	Asp	Phe	Lys	Asp	Cys	Glu	Arg	Arg	Phe	Phe	Arg
			20					25					30		
Ser	Asp	Gln	Leu	Lys	Arg	His	Gln	Arg	Arg	His	Thr	Gly	Val	Lys	Pro
		35					40					45			
Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu
	50					55					60				
Lys	Thr	His	Thr	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Phe	Ser	Cys	Arg
	65				70					75					80
Trp	Pro	Ser	Cys	Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val	Arg
				85					90					95	
His	His	Asn	Met	His	Gln	Arg	Asn	Met	Thr	Lys	Leu	Gln	Leu	Ala	Leu
			100					105					110		

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<210> 346
<211> 369
<212> PRT
<213> Homo sapiens
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<400> 346															
Met	Gln	His	His	His	His	His	His	His	Ser	Phe	Ile	Lys	Gln	Glu	Pro
				5					10					15	
Ser	Trp	Gly	Gly	Ala	Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe
			20					25					30		
Thr	Val	His	Phe	Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg
		35					40					45			
Tyr	Gly	Pro	Phe	Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln
	50					55					60				
Ala	Arg	Met	Phe	Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser
	65				70					75				80	
Gln	Pro	Ala	Ile	Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly
				85					90					95	

Thr Pro Ser Tyr Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro
 100 105 110
 Asn His Ser Phe Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu
 115 120 125
 Gly Glu Gln Gln Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr
 130 135 140
 Pro Thr Asp Ser Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro
 145 150 155 160
 Tyr Ser Ser Asp Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met
 165 170 175
 Thr Trp Asn Gln Met Asn Leu Gly Ala Thr Leu Lys Gly His Ser Thr
 180 185 190
 Gly Tyr Glu Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln
 195 200 205
 Tyr Arg Ile His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg
 210 215 220
 Arg Val Pro Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr
 225 230 235 240
 Ser Glu Lys Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg
 245 250 255
 Tyr Phe Lys Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly
 260 265 270
 Glu Lys Pro Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Phe
 275 280 285
 Arg Ser Asp Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys
 290 295 300
 Pro Phe Gln Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His
 305 310 315 320
 Leu Lys Thr His Thr Arg Thr His Thr Gly Glu Lys Pro Phe Ser Cys
 325 330 335
 Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val
 340 345 350
 Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala
 355 360 365
 Leu

<210> 347
 <211> 21
 <212> DNA
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<400> 376
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<210> 377
 <211> 1292
 <212> DNA
 <213> Homo sapiens

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<212> DNA

<213> Homo sapiens

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tacctcattg gcaggaagag gagtacgccc ggctatcaga ccatctagtg a 1491

```

<210> 383
 <211> 1251
 <212> DNA
 <213> Homo sapiens

```

<400> 383
atggcgcccc gcagcgcccc gcgacccttg ctgctgctac tgctgttgc tgctgctcgg 60
cctcatgcat tgtcgtcagc agccatgttt atggtgaaaa atggcaacgg gaccgcgtgc 120

```



```

ataatggcca acttctctgc tgccttctca gtgaactacg acaccaagag tggccccaag 180
aacatgacct ttgacctgcc atcagatgcc acagtgggtgc tcaaccgcag ctccctgtgga 240
aaagagaaca cttctgaccc cagtctcgtg attgcttttg gaagaggaca tacactcact 300
ctcaatttca cgagaaatgc aacacgttac agcgttcagc tcatgagttt tgtttataac 360
ttgtcagaca cacacctttt cccaatgcg agctccaaag aaatcaagac tgtggaatct 420
ataactgaca tcagggcaga tatagataaa aaatacagat gtgttagtgg caccacaggtc 480
cacatgaaca acgtgaccgt aacgctccat gatgccacca tccaggcgta cctttccaac 540
agcagcttca gcaggggaga gacacgctgt gaacaagaca ggccttcccc aaccacagcg 600
ccccctgcgc caccagccc ctgcacctca cccgtgccca agagcccctc tgtggacaag 660
tacaacgtga gcggcaccaa cgggacctgc ctgctggcca gcatggggct gcagctgaac 720
ctcacctatg agaggaagga caacacgacg gtgacaaggc ttctcaacat caaccccaac 780
aagacctcgg ccagcgggag ctgcggcgcc cacctggtga ctctggagct gcacagcgag 840
ggcaccaccg tctgtctctt ccagttcggg atgaatgcaa gttctagccg gtttttccta 900
caaggaatcc agttgaatac aattcttctt gacgccagag accctgcctt taaagctgcc 960
aacggctccc tgcgagcgct gcaggccaca gtcggcaatt cctacaagtg caacgcggag 1020
gagcacgtcc gtgtcacgaa ggcgttttca gtcaatatat tcaaagtgtg ggtccaggct 1080
ttcaaggtgg aaggtggcca gtttggtctt gtggaggagt gtctgctgga cgagaacagc 1140
acgtgatcc ccatcgctgt ggggtggtgc ctggcggggc tggtcctcat cgtcctcatc 1200
gcctacctcg tcggcaggaa gaggagtcac gcaggctacc agactatcta g 1251

```

<210> 384
 <211> 228
 <212> DNA
 <213> Homo sapiens

```

<400> 384
atgcagatct tcgtgaagac tctgactggt aagaccatca ccctcgaggt ggagcccagt 60
gacaccatcg agaatgtcaa ggcaaagatc caagataagg aaggcatccc tctgatcag 120
cagagggtga tctttgcccg aaaacagctg gaagatggtc gtaccctgtc tgactacaac 180
atccagaaag agtccacctt gcacctggtg ctccgtctca gaggtggg 228

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<210> 385
 <211> 1515
 <212> DNA
 <213> Homo sapiens

```

<400> 385
atgcagatct tcgtgaagac cctgaccggc aagaccatca ccctggaagt ggagcccagt 60
gacaccatcg aaaatgtgaa ggccaagatc caggataaag aaggcatccc tcccagaccag 120
cagagggtca tctttgcagg caagcagcta gaagatggcc gcactctttc tgactacaac 180
atccagaagg agtcgacctt gcacctggtc cttcgcctga gaggtgccat gggctccgac 240
gttcgtgacc tgaacgcact gctgccggca gttccgtccc tgggtggtgg tgggtggttc 300
gcactgccgg ttagcgggtgc agcacagtgg gctccggttc tggacttcgc accgccgggt 360
gcatccgcat acggttccct ggggtggtccg gcaccgccgc cggcaccgcc gccgccgccg 420
ccgccgccgc actccttcat caaacaggaa ccgagctggg gtggtgcaga accgcacgaa 480
gaacagtgcc tgagcgcatt caccgttcac ttctccggcc agttcactgg cacagccgga 540
gctgtcgtc acgggccctt cggctcctct ccgccagcc aggcgtcatc cggccaggcc 600
aggatgtttc ctaacgcgcc ctatctgccc agctgcctcg agagccagcc cgctattcgc 660
aatcagggtt acagcacggt caccttcgac gggacgccca gctacggtca cagccctcg 720
caccatgcgg cgcagttccc caaccactca ttcaagcatg aggatcccat gggccagcag 780
ggctcgctgg gtgagcagca gtactcgggt ccgccccggg tctatggctg ccacaccccc 840
accgacagct gcaccggcag ccaggctttg ctgctgagga cgccctacag cagtgacaat 900

```

ttataccaaa	tgacatccca	gcttgaatgc	atgacctgga	atcagatgaa	cttaggagcc	960
accttaaagg	gccacagcac	agggtagcag	agcgataacc	acacaacgcc	catcctctgc	1020
ggagcccaat	acagaatata	cacgcacggg	gtcttcagag	gcattcagga	tgtgcgacgt	1080
gtgcctggag	tagccccgac	tcttgtagcg	tggcatctg	agaccagtga	gaaacgcccc	1140
ttcatgtgtg	cttaccagc	ctgcaataag	agatatttta	agctgtccca	cttacagatg	1200
cacagcagga	agcacactgg	tgagaaacca	taccagtgtg	acttcaagga	ctgtgaacga	1260
agggtttttc	gttcagacca	gctcaaaaga	caccaaagga	gacatacagg	tgtgaaacca	1320
ttccagtgtg	aaacttgta	gcgaaagtgc	tcccggtccg	accacctgaa	gacccacacc	1380
aggactcata	caggtgaaaa	gcccttcagc	tgtcgggtgg	caagttgtca	gaaaaagtgt	1440
gcccggtcag	atgaattagt	ccgccatcac	aacatgcac	agagaaacat	gaccaaactc	1500
cagctggcgc	tttga					1515

<210> 386

<211> 648

<212> DNA

<213> Homo sapiens

<400> 386

atgcactcct	tcatcaaaca	ggaaccgagc	tgggggtggtg	cagaaccgca	cgaagaacag	60
tgctgagcg	cattcacctg	tcacttctcc	ggccagttca	ctggcacagc	cggagcctgt	120
cgctacgggc	ccttcggtcc	tcctccgccc	agccaggcgt	catccggcca	ggccaggatg	180
tttcctaacg	cgccctacct	gccagctgc	ctcgagagcc	agcccgctat	tcgcaatcag	240
ggttacagca	cggtcacctt	cgacgggacg	cccagctacg	gtcacacgcc	ctcgacccat	300
gcggcgagc	tccccaacca	ctcattcaag	catgaggatc	ccatgggcca	gcagggtctg	360
ctgggtgagc	agcagtactc	ggtgccgccc	ccggtctatg	gctgccacac	ccccaccgac	420
agctgcaccg	gcagccaggc	tttgctgctg	aggacgccct	acagcagtga	caattttatac	480
caaattgacat	cccagcttga	atgcatgacc	tggaaatcaga	tgaacttagg	agccacctta	540
aaggggccaca	gcacagggtg	cgagagcgat	aaccacacaa	cgcccatcct	ctgcggagcc	600
caatacagaa	tacacacgca	cgggtgtcttc	agaggcattc	agtgatga		648

<210> 387

<211> 1089

<212> DNA

<213> Homo sapiens

<400> 387

atgcactcct	tcatcaaaca	ggaaccgagc	tgggggtggtg	cagaaccgca	cgaagaacag	60
tgctgagcg	cattcacctg	tcacttctcc	ggccagttca	ctggcacagc	cggagcctgt	120
cgctacgggc	ccttcggtcc	tcctccgccc	agccaggcgt	catccggcca	ggccaggatg	180
tttcctaacg	cgccctacct	gccagctgc	ctcgagagcc	agcccgctat	tcgcaatcag	240
ggttacagca	cggtcacctt	cgacgggacg	cccagctacg	gtcacacgcc	ctcgacccat	300
gcggcgagc	tccccaacca	ctcattcaag	catgaggatc	ccatgggcca	gcagggtctg	360
ctgggtgagc	agcagtactc	ggtgccgccc	ccggtctatg	gctgccacac	ccccaccgac	420
agctgcaccg	gcagccaggc	tttgctgctg	aggacgccct	acagcagtga	caattttatac	480
caaattgacat	cccagcttga	atgcatgacc	tggaaatcaga	tgaacttagg	agccacctta	540
aaggggccaca	gcacagggtg	cgagagcgat	aaccacacaa	cgcccatcct	ctgcggagcc	600
caatacagaa	tacacacgca	cgggtgtcttc	agaggcattc	aggatgtgcg	acgtgtgcct	660
ggagtagccc	cgactcttgt	acggtcggca	tctgagacca	gtgagaaacg	cccccttcag	720
tgtgcttacc	caggctgcaa	taagagatat	tttaagctgt	cccacttaca	gatgcacagc	780
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tttcgttcag	accagctcaa	aagacaccaa	aggagacata	cagggtgtgaa	accattccag	900
tgtaaaactt	gtcagcgaaa	gttctcccgg	tccgaccacc	tgaagaccca	caccaggact	960
catacagggtg	aaaagccctt	cagctgtcgg	tggccaagtt	gtcagaaaaa	gtttgcccgg	1020

tcagatgaat tagtccgccca tcacaacatg catcagagaa acatgaccaa actccagctg 1080
gcgctttga 1089

<210> 388
<211> 1035
<212> DNA
<213> Homo sapiens

<400> 388
atgacggccg cgtccgataa cttccagctg tcccaggggtg ggcagggatt cgccattccg 60
atcgggagcg cgatggcgat cgcgggccag atcaagcttc ccaccgttca tatcgggcct 120
accgccttcc tcggcttggg tgttgctcgac aacaacggca acggcgacg agtccaacgc 180
gtggtcggga gcgctccggc ggcaagtctc ggcatctcca ccggcgacgt gatcaccgcg 240
gtcgacggcg ctccgatcaa ctcgccacc gcgatggcg acgcgttaa cgggcatcat 300
cccggtagcg tcatctcggg gacctggcaa accaagtcgg gcggcacgag tacagggaac 360
gtgacattgg ccgagggacc cccggccgaa ttccactcct tcatcaaaca ggaaccgagc 420
tggggtgggt cagaaccgca cgaagaacag tgcctgagcg cattcaccgt tcacttctcc 480
ggccagttca ctggcacagc cggagcctgt cgctacgggc ccttcgggtcc tcctccgccc 540
agccaggcgt catccggcca ggccaggatg tttcctaacg cgccctacct gccagctgc 600
ctcgagagcc agcccgtat tcgcaatcag ggttacagca cggtcacctt cgacgggacg 660
cccagctacg gtcacacgcc ctgcacccat gcggcgacgt tccccaacca ctcatcgaag 720
catgaggatc ccatgggcca gcagggtctg ctgggtgagc agcagtactc ggtgccgccc 780
ccggtctatg gctgccacac ccccaccgac agctgcaccg gcagccaggc tttgctgctg 840
aggacgccct acagcagtga caatttatac caaatgacat cccagcttga atgcatgacc 900
tggaatcaga tgaacttagg agccaccta aagggccaca gcacagggtg cgagagcgat 960
aaccacacaa cgccatcct ctgcggagcc caatacagaa tacacacgca cgggtgtcttc 1020
agaggcattc agtga 1035

<210> 389
<211> 1263
<212> DNA
<213> Homo sapiens

<400> 389
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atcgggagcg cgatggcgat cgcgggccag atcaagcttc ccaccgttca tatcgggcct 120
accgccttcc tcggcttggg tgttgctcgac aacaacggca acggcgacg agtccaacgc 180
gtggtcggga gcgctccggc ggcaagtctc ggcatctcca ccggcgacgt gatcaccgcg 240
gtcgacggcg ctccgatcaa ctcgccacc gcgatggcg acgcgttaa cgggcatcat 300
cccggtagcg tcatctcggg gacctggcaa accaagtcgg gcggcacgag tacagggaac 360
gtgacattgg ccgagggacc cccggccgaa ttcccgtgg tgccgcgagg cagcccgatg 420
ggctccgacg ttcgggacct gaacgcactg ctgccggcag ttccgtccct ggggtgggtg 480
gggtggtgag cactgccggg tagcgggtgca gcacagtggg ctccggttct ggacttcgca 540
ccgcccgggtg catccgcata cggttccttg ggtggtccgg caccgccgcc ggcaccgccg 600
ccgcccggcg cgccgccgcc gcactccttc atcaaacagg aaccgagctg ggggtggtgca 660
gaaccgcacg aagaacagtg cctgagcgca ttcaccgttc acttctccgg ccagttcact 720
ggcacagccg gagcctgtcg ctacgggcc ttcgggtctc ctccgccag ccaggcgtca 780
tccggccagg ccaggatgtt tcctaacgcg ccctacctgc ccagctgcct cgagagccag 840
cccgtattc gcaatcaggg ttacagcacg gtcaccttc acgggacgcc cagctacggt 900
cacagccctc cgcacatgc ggcgcagttc cccaaccact cattcaagca tgaggatccc 960
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tgccacaccc ccaccgacag ctgcaccggc agccaggctt tgctgctgag gacgccctac 1080
agcagtgaca atttatacca aatgacatcc cagcttgaat gcatgacctg gaatcagatg 1140
aacttaggag ccaccttaaa gggccacagc acaggggtac agagcgataa ccacacaacg 1200

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cccatcctct gcggagccca atacagaata cacacgcacg gtgtcttcag aggcattcag 1260
tga                                              1263

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<210> 390
<211> 1707
<212> DNA
<213> Homo sapiens

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<400> 390
atgacggccg cgtccgataa cttccagctg tcccaggggtg ggcagggatt cgccattccg 60
atcggggcagg cgatggcgat cgcgggccag atcaagcttc ccaccgttca tatcgggcct 120
accgccttcc tcggcttggg tgttgtcgac aacaacggca acggcgacg agtccaacgc 180
gtggtcggga gcgtccggc ggcaagtctc ggcatctcca ccggcgacgt gatcaccgcg 240
gtcgacggcg ctccgatcaa ctcgccacc gcgatggcgg acgcgcttaa cgggcatcat 300
cccggtgacg tcatctcggg gacctggcaa accaagtcgg gcggcacgcg tacagggaac 360
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ggctccgacg ttcgggacct gaacgcactg ctgccggcag ttccgtccct ggggtggtgg 480
ggtggttgcg cactgcccgt tagcggtgca gcacagtggg ctccggttct ggacttcgca 540
ccgcccgggtg catccgcata cggttccctg ggtggtccgg caccgccgcc ggcaccgcg 600
ccgccgccgc cgccgccgcc gcactccttc atcaaacagg aaccgagctg ggggtggtgca 660
gaaccgcacg aagaacagtg cctgagcgca ttcaccgttc acttctccgg ccagttcact 720
ggcacagccg gagcctgtcg ctacgggccc ttcggtcctc ctccgccag ccaggcgta 780
tccggccagg ccaggatgtt tcctaacgcg ccctacctgc ccagctgcct cgagagccag 840
cccgtatttc gcaatcaggg ttacagcacg gtcaccttcg acgggacgcc cagctacggt 900
cacacgccct cgcaccatgc ggcgcagttc cccaaccact cattcaagca tgaggatccc 960
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tgccacaccc ccaccgacag ctgcaccggc agccaggctt tgctgctgag gacgccctac 1080
agcagtgaca atttatacca aatgacatcc cagcttgaat gcatgacctg gaatcagatg 1140
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cccatectct gcggagccca atacagaata cacacgcacg gtgtcttcag aggcattcag 1260
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ggtgtgaaac cattccagt taaaacttgt cagcgaaagt tctcccggtc cgaccacctg 1560
aagaccacaca ccaggactca tacagggtgaa aagcccttca gctgtcgggt gccaaattgt 1620
cagaaaaagt ttgcccggtc agatgaatta gtccgccatc acaacatgca tcagagaaac 1680
atgaccaaac tccagctggc gctttga                                              1707

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<210> 391
<211> 344
<212> PRT
<213> Homo sapiens

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<400> 391
Met Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly
          5                      10                      15

Phe Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Lys
          20                      25                      30

Leu Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly Leu Gly Val
          35                      40                      45

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Val	Asp	Asn	Asn	Gly	Asn	Gly	Ala	Arg	Val	Gln	Arg	Val	Val	Gly	Ser	50	55	60	
Ala	Pro	Ala	Ala	Ser	Leu	Gly	Ile	Ser	Thr	Gly	Asp	Val	Ile	Thr	Ala	65	70	75	80
Val	Asp	Gly	Ala	Pro	Ile	Asn	Ser	Ala	Thr	Ala	Met	Ala	Asp	Ala	Leu	85	90	95	
Asn	Gly	His	His	Pro	Gly	Asp	Val	Ile	Ser	Val	Thr	Trp	Gln	Thr	Lys	100	105	110	
Ser	Gly	Gly	Thr	Arg	Thr	Gly	Asn	Val	Thr	Leu	Ala	Glu	Gly	Pro	Pro	115	120	125	
Ala	Glu	Phe	His	Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly	Ala	130	135	140	
Glu	Pro	His	Glu	Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Val	His	Phe	Ser	145	150	155	160
Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe	Gly	165	170	175	
Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe	Pro	180	185	190	
Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	Ala	Ile	Arg	195	200	205	
Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly	Thr	Pro	Ser	Tyr	Gly	210	215	220	
His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	Ser	Phe	Lys	225	230	235	240
His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu	Gln	Gln	Tyr	245	250	255	
Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	Asp	Ser	Cys	260	265	270	
Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	Ser	Asp	Asn	275	280	285	
Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	Asn	Gln	Met	290	295	300	
Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	His	Ser	Thr	Gly	Tyr	Glu	Ser	Asp	305	310	315	320
Asn	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile	His	Thr	325	330	335	

His Gly Val Phe Arg Gly Ile Gln
340

<210> 392
<211> 568
<212> PRT
<213> Homo sapiens

<400> 392
Met Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly
5 10 15
Phe Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Lys
20 25 30
Leu Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly Leu Gly Val
35 40 45
Val Asp Asn Asn Gly Asn Gly Ala Arg Val Gln Arg Val Val Gly Ser
50 55 60
Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr Gly Asp Val Ile Thr Ala
65 70 75 80
Val Asp Gly Ala Pro Ile Asn Ser Ala Thr Ala Met Ala Asp Ala Leu
85 90 95
Asn Gly His His Pro Gly Asp Val Ile Ser Val Thr Trp Gln Thr Lys
100 105 110
Ser Gly Gly Thr Arg Thr Gly Asn Val Thr Leu Ala Glu Gly Pro Pro
115 120 125
Ala Glu Phe Pro Leu Val Pro Arg Gly Ser Pro Met Gly Ser Asp Val
130 135 140
Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly
145 150 155 160
Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val
165 170 175
Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly
180 185 190
Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro His
195 200 205
Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu
210 215 220
Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr
225 230 235 240

Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro
 245 250 255
 Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr
 260 265 270
 Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr
 275 280 285
 Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser
 290 295 300
 His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro
 305 310 315 320
 Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro
 325 330 335
 Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln
 340 345 350
 Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met
 355 360 365
 Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala
 370 375 380
 Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr
 385 390 395 400
 Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe
 405 410 415
 Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro Thr Leu
 420 425 430
 Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met Cys Ala
 435 440 445
 Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu Gln Met
 450 455 460
 His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys
 465 470 475 480
 Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln
 485 490 495
 Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
 500 505 510
 Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
 515 520 525

Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe
 530 535 540

Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn
 545 550 555 560

Met Thr Lys Leu Gln Leu Ala Leu
 565

<210> 393
 <211> 420
 <212> PRT
 <213> Homo sapiens

<400> 393
 Met Thr Ala Ala Ser Asp Asn Phe Gln Leu Ser Gln Gly Gly Gln Gly
 5 10 15

Phe Ala Ile Pro Ile Gly Gln Ala Met Ala Ile Ala Gly Gln Ile Lys
 20 25 30

Leu Pro Thr Val His Ile Gly Pro Thr Ala Phe Leu Gly Leu Gly Val
 35 40 45

Val Asp Asn Asn Gly Asn Gly Ala Arg Val Gln Arg Val Val Gly Ser
 50 55 60

Ala Pro Ala Ala Ser Leu Gly Ile Ser Thr Gly Asp Val Ile Thr Ala
 65 70 75 80

Val Asp Gly Ala Pro Ile Asn Ser Ala Thr Ala Met Ala Asp Ala Leu
 85 90 95

Asn Gly His His Pro Gly Asp Val Ile Ser Val Thr Trp Gln Thr Lys
 100 105 110

Ser Gly Gly Thr Arg Thr Gly Asn Val Thr Leu Ala Glu Gly Pro Pro
 115 120 125

Ala Glu Phe Pro Leu Val Pro Arg Gly Ser Pro Met Gly Ser Asp Val
 130 135 140

Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro Ser Leu Gly Gly Gly
 145 150 155 160

Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala Pro Val
 165 170 175

Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu Gly Gly
 180 185 190

Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro Pro Pro His

195	200	205
Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro His Glu		
210	215	220
Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln Phe Thr		
225	230	235 240
Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro Pro Pro		
	245	250 255
Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala Pro Tyr		
	260	265 270
Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln Gly Tyr		
	275	280 285
Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr Pro Ser		
	290	295 300
His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu Asp Pro		
305	310	315 320
Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val Pro Pro		
	325	330 335
Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly Ser Gln		
	340	345 350
Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr Gln Met		
	355	360 365
Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu Gly Ala		
	370	375 380
Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His Thr Thr		
385	390	395 400
Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly Val Phe		
	405	410 415
Arg Gly Ile Gln		
	420	

<210> 394
 <211> 362
 <212> PRT
 <213> Homo sapiens

<400> 394
 Met His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro
 5 10 15

His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln
 20 25 30
 Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro
 35 40 45
 Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala
 50 55 60
 Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln
 65 70 75 80
 Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr
 85 90 95
 Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu
 100 105 110
 Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val
 115 120 125
 Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly
 130 135 140
 Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr
 145 150 155 160
 Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu
 165 170 175
 Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His
 180 185 190
 Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly
 195 200 205
 Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro Gly Val Ala Pro
 210 215 220
 Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys Arg Pro Phe Met
 225 230 235 240
 Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys Leu Ser His Leu
 245 250 255
 Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp
 260 265 270
 Phe Lys Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg
 275 280 285
 His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys
 290 295 300

Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr
305 310 315 320

His Thr Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys
325 330 335

Lys Phe Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln
340 345 350

Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
355 360

<210> 395

<211> 214

<212> PRT

<213> Homo sapiens

<400> 395

Met His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly Ala Glu Pro
5 10 15

His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe Ser Gly Gln
20 25 30

Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe Gly Pro Pro
35 40 45

Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe Pro Asn Ala
50 55 60

Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile Arg Asn Gln
65 70 75 80

Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr Gly His Thr
85 90 95

Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe Lys His Glu
100 105 110

Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln Tyr Ser Val
115 120 125

Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser Cys Thr Gly
130 135 140

Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp Asn Leu Tyr
145 150 155 160

Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln Met Asn Leu
165 170 175

Gly Ala Thr Leu Lys Gly His Ser Thr Gly Tyr Glu Ser Asp Asn His
180 185 190

Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile His Thr His Gly
 195 200 205

Val Phe Arg Gly Ile Gln
 210

<210> 396

<211> 30

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 396

gacgaaagca tatgcactcc ttcacaaac

30

<210> 397

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 397

gcgctgaatt catcactgaa tgcctctgaa g

31

<210> 398

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 398

cgataagcat atgacggccg cgtccgataa c

31

<210> 399

<211> 31

<212> DNA

<213> Artificial Sequence

<220>

<223> PCR primer

<400> 399

gcgctgaatt catcactgaa tgcctctgaa g

31

<210> 400

<211> 31
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 400
 cgataagcat atgacggccg cgtccgataa c 31

<210> 401
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 401
 gtctgcagcg gccgctcaaa gcgccagc 28

<210> 402
 <211> 30
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 402
 gacgaaagca tatgcactcc ttcattcaaac 30

<210> 403
 <211> 28
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> PCR primer

<400> 403
 gtctgcagcg gccgctcaaa gcgccagc 28

<210> 404
 <211> 449
 <212> PRT
 <213> Homo sapiens

<400> 404
 Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro
 1 5 10 15
 Ser Leu Gly Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
 20 25 30

Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr
 35 40 45
 Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro
 50 55 60
 Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly
 65 70 75 80
 Ala Glu Pro His Glu Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe
 85 90 95
 Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe
 100 105 110
 Gly Pro Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe
 115 120 125
 Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile
 130 135 140
 Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr
 145 150 155 160
 Gly His Thr Pro Ser His His Ala Ala Gln Phe Pro Asn His Ser Phe
 165 170 175
 Lys His Glu Asp Pro Met Gly Gln Gln Gly Ser Leu Gly Glu Gln Gln
 180 185 190
 Tyr Ser Val Pro Pro Pro Val Tyr Gly Cys His Thr Pro Thr Asp Ser
 195 200 205
 Cys Thr Gly Ser Gln Ala Leu Leu Leu Arg Thr Pro Tyr Ser Ser Asp
 210 215 220
 Asn Leu Tyr Gln Met Thr Ser Gln Leu Glu Cys Met Thr Trp Asn Gln
 225 230 235 240
 Met Asn Leu Gly Ala Thr Leu Lys Gly Val Ala Ala Gly Ser Ser Ser
 245 250 255
 Ser Val Lys Trp Thr Glu Gly Gln Ser Asn His Ser Thr Gly Tyr Glu
 260 265 270
 Ser Asp Asn His Thr Thr Pro Ile Leu Cys Gly Ala Gln Tyr Arg Ile
 275 280 285
 His Thr His Gly Val Phe Arg Gly Ile Gln Asp Val Arg Arg Val Pro
 290 295 300
 Gly Val Ala Pro Thr Leu Val Arg Ser Ala Ser Glu Thr Ser Glu Lys
 305 310 315 320
 Arg Pro Phe Met Cys Ala Tyr Pro Gly Cys Asn Lys Arg Tyr Phe Lys
 325 330 335
 Leu Ser His Leu Gln Met His Ser Arg Lys His Thr Gly Glu Lys Pro
 340 345 350
 Tyr Gln Cys Asp Phe Lys Asp Cys Glu Arg Arg Phe Ser Arg Ser Asp
 355 360 365
 Gln Leu Lys Arg His Gln Arg Arg His Thr Gly Val Lys Pro Phe Gln
 370 375 380
 Cys Lys Thr Cys Gln Arg Lys Phe Ser Arg Ser Asp His Leu Lys Thr
 385 390 395 400
 His Thr Arg Thr His Thr Gly Lys Thr Ser Glu Lys Pro Phe Ser Cys
 405 410 415
 Arg Trp Pro Ser Cys Gln Lys Lys Phe Ala Arg Ser Asp Glu Leu Val
 420 425 430
 Arg His His Asn Met His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala
 435 440 445
 Leu

<210> 405
 <211> 428
 <212> PRT
 <213> Homo sapiens

<400> 405

Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Asn	Ala	Leu	Leu	Pro	Ala	Val	Pro
1				5					10					15	
Ser	Pro	Gly	Gly	Gly	Gly	Gly	Cys	Ala	Leu	Pro	Val	Ser	Gly	Ala	Thr
		20						25					30		
Gln	Trp	Ala	Pro	Val	Leu	Asp	Phe	Val	Pro	Pro	Gly	Ala	Pro	Val	Cys
		35					40					45			
Gly	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro	Leu	Pro
	50					55					60				
Pro	Pro	Pro	Ser	His	Ser	Phe	Thr	Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly
65				70						75					80
Thr	Glu	Pro	His	Ala	Gly	Gln	Gly	Arg	Ser	Ala	Leu	Val	Ala	His	Ser
				85					90					95	
Ser	Gly	Gln	Phe	Thr	Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe
			100					105					110		
Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe
		115					120					125			
Pro	Asn	Ala	Pro	Tyr	Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	Ala	Ile
	130					135					140				
Arg	Asn	Gln	Gly	Tyr	Ser	Thr	Val	Thr	Phe	Asp	Gly	Thr	Pro	Ser	Tyr
145				150						155					160
Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	Ser	Ser
				165					170					175	
Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Pro	Gly	Glu	Gln	Gln
		180						185					190		
Tyr	Ser	Ala	Pro	Pro	Pro	Val	Cys	Gly	Cys	Arg	Thr	Pro	Thr	Gly	Ser
		195					200					205			
Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Arg	Ala	Pro	Tyr	Ser	Gly	Gly	
	210					215				220					
Asp	Leu	His	Gln	Thr	Thr	Ser	Gln	Leu	Gly	His	Met	Ala	Trp	Asn	Gln
225				230						235					240
Thr	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	His	Gly	Thr	Gly	Tyr	Glu	Ser
				245					250					255	
Asp	Asp	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Thr	Gln	Tyr	Arg	Ile	Arg
			260					265					270		
Ala	Arg	Gly	Val	Leu	Arg	Gly	Thr	Gln	Asp	Val	Arg	Cys	Val	Pro	Gly
		275					280					285			
Val	Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys	Arg
	290					295					300				
Pro	Leu	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg	His	Phe	Lys	Pro
305				310					315						320
Ser	Arg	Leu	Arg	Val	Arg	Gly	Arg	Glu	Arg	Thr	Gly	Glu	Lys	Pro	Tyr
				325				330						335	
Gln	Arg	Asp	Phe	Lys	Asp	Arg	Gly	Arg	Gly	Leu	Leu	Arg	Pro	Asp	Gln
			340					345					350		
Leu	Lys	Arg	His	Gln	Arg	Gly	His	Thr	Gly	Val	Lys	Pro	Leu	Gln	Cys
	355						360					365			

Glu Ala Arg Arg Arg Pro Pro Arg Pro Gly His Leu Lys Val His Thr
 370 375 380
 Arg Thr His Thr Gly Gly Glu Pro Phe Ser Cys Arg Trp Pro Ser Cys
 385 390 395 400
 Gln Glu Lys Ser Ala Arg Pro Asp Glu Ser Ala Arg Arg His Asn Met
 405 410 415
 His Gln Arg Asn Met Thr Lys Leu Gln Leu Ala Leu
 420 425

<210> 406

<211> 414

<212> PRT

<213> Homo sapiens

<220>

<221> VARIANT

<222> 85, 86, 172, 173, 242, 245, 246, 247

<223> Xaa = Any Amino Acid

<400> 406

Met Gly Ser Asp Val Arg Asp Leu Ser Ala Leu Leu Pro Ala Val Pro
 1 5 10 15
 Ser Leu Gly Asp Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
 20 25 30
 Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala His
 35 40 45
 Gly Pro Leu Gly Gly Pro Ala Pro Pro Ser Ala Pro Pro Pro Pro
 50 55 60
 Pro Pro Pro Pro His Ser Phe Ile Lys Gln Gly Pro Ser Trp Gly Gly
 65 70 75 80
 Ala Glu Leu His Xaa Gln Tyr Leu Ser Ala Phe Thr Val His Ser
 85 90 95
 Ser Gly Gln Val His Trp His Gly Arg Gly Leu Ser Leu Arg Ala Pro
 100 105 110
 Arg Pro Pro Ser Ala Gln Pro Gly Val Ile Arg Pro Gly Gln Asp Val
 115 120 125
 Ser Arg Ala Leu Pro Ala Gln Pro Pro Arg Glu Pro Ala Arg Tyr Pro
 130 135 140
 Gln Ser Gly Leu Gln His Gly His Leu Arg Arg Gly Val Arg Leu Arg
 145 150 155 160
 Ser His Ala Leu Ala Pro Cys Gly Ala Val Leu Xaa Xaa Thr Arg Ala
 165 170 175
 Gly Ser His Gly Pro Ala Gly Ser Ala Gly Ala Ala Val Leu Gly Ala
 180 185 190
 Ala Pro Gly Leu Trp Pro Pro His Pro Arg Arg Gln Leu Arg Arg Gln
 195 200 205
 Pro Gly Phe Ala Ala Glu Gly Ala Leu Gln Arg Arg Phe Ile Pro Ser
 210 215 220
 Asp Val Pro Ala Val His Gly Leu Glu Ser Asp Glu Pro Arg Gly Arg
 225 230 235 240
 Leu Xaa Gly Pro Xaa Xaa Xaa Val Arg Glu Arg Ser His Asn Ala Arg
 245 250 255
 Pro Leu Arg Ser Pro Ile Gln Asn Thr His Ala Arg Cys Leu Gln Gly

Arg	Ser	Gly	Cys	Ala	Pro	Cys	Ala	Trp	Ser	Ser	Pro	Asp	Ser	Cys	Thr	
		275					280					285				
Val	Gly	Ile	Gly	Gln	Gly	Thr	Pro	Pro	His	Val	Cys	Leu	Pro	Arg	Leu	
	290					295					300					
Gln	Glu	Val	Ser	Glu	Ala	Ala	Pro	Leu	Thr	Asp	Ala	Arg	Glu	Ala	Arg	
305					310					315					320	
Trp	Glu	Thr	Ile	Pro	Val	Leu	Gln	Gly	Leu	Trp	Thr	Glu	Val	Phe	Leu	
				325					330					335		
Leu	Arg	Pro	Ala	Gln	Lys	Thr	Pro	Gly	Glu	Ala	Tyr	Arg	Cys	Glu	Ala	
			340					345					350			
Ile	Pro	Ala	Asp	Leu	Ser	Ala	Arg	Val	Leu	Pro	Ala	Gln	Pro	Pro	Glu	
		355					360					365				
Asp	Pro	Arg	Gln	Asp	Ser	Cys	Arg	Lys	Ala	Pro	Gln	Leu	Ser	Val	Val	
	370					375					380					
Arg	Leu	Ser	Glu	Lys	Ala	Cys	Pro	Val	Lys	Val	Gly	Pro	Pro	Ser	Arg	
385					390					395					400	
His	Ala	Ser	Glu	Gly	His	Asp	Arg	Thr	Pro	Ala	Gly	Ala	Leu			
				405				410								

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<210> 407
<211> 417
<212> PRT
<213> Homo sapiens
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400> 407															
Met	Gly	Ser	Asp	Val	Arg	Asp	Leu	Ser	Ala	Leu	Leu	Pro	Thr	Ala	Pro
1				5					10					15	
Ser	Leu	Gly	Gly	Gly	Gly	Asp	Cys	Thr	Leu	Pro	Val	Ser	Gly	Thr	Ala
			20				25						30		
Gln	Trp	Ala	Pro	Val	Pro	Ala	Ser	Ala	Pro	Pro	Gly	Ala	Ser	Ala	Tyr
		35					40					45			
Asp	Ser	Leu	Gly	Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro	Pro	Pro
	50					55					60				
Pro	Pro	Pro	Pro	His	Ser	Cys	Gly	Glu	Gln	Gly	Pro	Ser	Trp	Gly	Gly
65					70					75					80
Ala	Glu	Pro	Arg	Glu	Gly	Gln	Cys	Leu	Ser	Ala	Pro	Ala	Val	Arg	Phe
				85						90				95	
Ser	Gly	Arg	Phe	Thr	Gly	Thr	Val	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Leu
			100					105					110		
Gly	Pro	Pro	Pro	Pro	Ser	Gln	Ala	Pro	Ser	Gly	Gln	Thr	Arg	Met	Leu
		115					120					125			
Pro	Ser	Ala	Pro	Tyr	Leu	Ser	Ser	Cys	Leu	Arg	Ser	Arg	Ser	Ala	Ile
	130					135					140				
Arg	Ser	Gln	Gly	Arg	Ser	Thr	Ala	Pro	Ser	Ala	Gly	Arg	Pro	Ala	Met
145					150					155					160
Ala	Pro	Thr	Leu	Ala	Pro	Pro	Ala	Gln	Ser	His	Tyr	Ser	Gln	His	Gly
				165					170					175	
Val	Leu	His	Gly	Pro	Ala	Gly	Leu	Ala	Gly	Ala	Ala	Val	Leu	Gly	Ala
			180					185					190		
Ala	Pro	Gly	Leu	Trp	Leu	Pro	His	Pro	His	Arg	Gln	Leu	His	Arg	Gln
		195					200					205			
Pro	Gly	Phe	Ala	Ala	Glu	Asp	Ala	Leu	Gln	Gln	Gln	Phe	Ile	Pro	Asn

210	215	220
Asp Ile Pro Ala Met His	Asp Leu Glu Ser Asp	Glu Leu Arg Ser His
225	230	235
Leu Lys Gly Pro Gln His	Arg Val Arg Glu Arg	Pro His Asn Ala His
245	250	255
Pro Leu Arg Ser Pro Ile	Gln Asn Thr His Ala	Arg Cys Leu Gln Arg
260	265	270
His Ser Gly Cys Ala Thr	Cys Ala Trp Ser Ser	Pro Asp Ser Cys Thr
275	280	285
Val Ala Pro Glu Thr Ser	Glu Asn Ala Pro Trp	Cys Val Leu Pro Gly
290	295	300
Leu Gln Gly Val Phe Ala	Val Pro Leu Thr Gly	Ala Gln Gln Glu Ala
305	310	315
His Trp Asp Ala Thr Pro	Val Arg Leu Gln Gly	Pro Trp Thr Arg Ala
325	330	335
Ser Pro Phe Gly Thr Ser	Pro Arg Asp Thr Lys	Gly Asp Ile Gln Val
340	345	350
Arg Asn His Ser Ser Val	Arg Leu Val Ser Glu	Gly Ser Pro Gly Pro
355	360	365
Thr Thr Gly Pro Thr Pro	Gly Pro Thr Arg Val	Gly Ser Pro Ser Ala
370	375	380
Ala Gly Gly Gln Ala Ala	Arg Glu Gly Ser Pro	Ser Gln Thr Asn Ser
385	390	395
Val Ile Thr Thr Cys Ile	Ser Glu Thr Leu Asn	Ser Ser Trp Arg Phe
405	410	415
Glu		

<210> 408
 <211> 429
 <212> PRT
 <213> Homo sapiens

<400> 408
 Met Gly Ser Asp Val Arg Asp Leu Asn Ala Leu Leu Pro Ala Val Pro
 1 5 10 15
 Ser Leu Gly Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala
 20 25 30
 Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr
 35 40 45
 Gly Ser Leu Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro
 50 55 60
 Pro Pro Pro Pro His Ser Phe Ile Lys Gln Glu Pro Ser Trp Gly Gly
 65 70 75 80
 Ala Glu Pro His Glu Gln Cys Leu Ser Ala Phe Thr Val His Phe
 85 90 95
 Ser Gly Gln Phe Thr Gly Thr Ala Gly Ala Cys Arg Tyr Gly Pro Phe
 100 105 110
 Gly Pro Pro Pro Ser Gln Ala Ser Ser Gly Gln Ala Arg Met Phe
 115 120 125
 Pro Asn Ala Pro Tyr Leu Pro Ser Cys Leu Glu Ser Gln Pro Ala Ile
 130 135 140
 Arg Asn Gln Gly Tyr Ser Thr Val Thr Phe Asp Gly Thr Pro Ser Tyr

145					150					155					160
Gly	His	Thr	Pro	Ser	His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	Ser	Phe
				165					170					175	
Lys	His	Glu	Asp	Pro	Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu	Gln	Gln
			180					185					190		
Tyr	Ser	Val	Pro	Pro	Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	Asp	Ser
		195					200					205			
Cys	Thr	Gly	Ser	Gln	Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	Ser	Asp
	210					215					220				
Asn	Leu	Tyr	Gln	Met	Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	Asn	Gln
225					230					235					240
Met	Asn	Leu	Gly	Ala	Thr	Leu	Lys	Gly	His	Ser	Thr	Gly	Tyr	Glu	Ser
				245					250					255	
Asp	Asn	His	Thr	Thr	Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile	His
			260					265					270		
Thr	His	Gly	Val	Phe	Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val	Pro	Gly
		275					280					285			
Val	Ala	Pro	Thr	Leu	Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys	Arg
	290					295					300				
Pro	Phe	Met	Cys	Ala	Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe	Lys	Leu
305					310					315					320
Ser	His	Leu	Gln	Met	His	Ser	Arg	Lys	His	Thr	Gly	Glu	Lys	Pro	Tyr
				325					330					335	
Gln	Cys	Asp	Phe	Lys	Asp	Cys	Glu	Arg	Arg	Phe	Phe	Arg	Ser	Asp	Gln
			340					345					350		
Leu	Lys	Arg	His	Gln	Arg	Arg	His	Thr	Gly	Val	Lys	Pro	Phe	Gln	Cys
		355					360					365			
Lys	Thr	Cys	Gln	Arg	Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His
	370					375					380				
Thr	Arg	Thr	His	Thr	Gly	Glu	Lys	Pro	Phe	Ser	Cys	Arg	Trp	Pro	Ser
385					390					395					400
Cys	Gln	Lys	Lys	Phe	Ala	Arg	Ser	Asp	Glu	Leu	Val	Arg	His	His	Asn
				405					410					415	
Met	His	Gln	Arg	Asn	Met	Thr	Lys	Leu	Gln	Leu	Ala	Leu			
			420					425							

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<210> 409
<211> 495
<212> PRT
<213> Homo sapiens
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<400> 409
Met Ala Ala Pro Gly Ala Arg Arg Ser Leu Leu Leu Leu Leu Ala
 1          5          10         15
Gly Leu Ala His Gly Ala Ser Ala Leu Phe Glu Asp Leu Met Gly Ser .
                20        25        30
Asp Val Arg Asp Leu Asn Ala Leu Pro Ala Val Pro Ser Leu Gly
      35           40           45
Gly Gly Gly Gly Cys Ala Leu Pro Val Ser Gly Ala Ala Gln Trp Ala
 50       55       60
Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu
65            70            75            80
Gly Gly Pro Ala Pro Pro Pro Ala Pro Pro Pro Pro Pro Pro His
```

				85					90					95			
Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly	Ala	Glu	Pro	His	Glu		
			100					105					110				
Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Val	His	Phe	Ser	Gly	Gln	Phe	Thr		
		115					120					125					
Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe	Gly	Pro	Pro	Pro	Pro		
		130				135					140						
Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe	Pro	Asn	Ala	Pro	Tyr		
145					150					155					160		
Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	Ala	Ile	Arg	Asn	Gln	Gly	Tyr		
			165					170						175			
Ser	Thr	Val	Thr	Phe	Asp	Gly	Thr	Pro	Ser	Tyr	Gly	His	Thr	Pro	Ser		
		180					185						190				
His	His	Ala	Gln	Phe	Pro	Asn	His	Ser	Phe	Lys	His	Glu	Asp	Pro			
		195				200				205							
Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu	Gln	Gln	Tyr	Ser	Val	Pro	Pro		
		210				215				220							
Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	Asp	Ser	Cys	Thr	Gly	Ser	Gln		
225					230					235					240		
Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	Ser	Asp	Asn	Leu	Tyr	Gln	Met		
				245					250					255			
Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	Asn	Gln	Met	Asn	Leu	Gly	Ala		
		260						265					270				
Thr	Leu	Lys	Gly	His	Ser	Thr	Gly	Tyr	Glu	Ser	Asp	Asn	His	Thr	Thr		
		275					280					285					
Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile	His	Thr	His	Gly	Val	Phe		
		290				295				300							
Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val	Pro	Gly	Val	Ala	Pro	Thr	Leu		
305				310						315					320		
Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys	Arg	Pro	Phe	Met	Cys	Ala		
			325					330						335			
Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe	Lys	Leu	Ser	His	Leu	Gln	Met		
		340						345					350				
His	Ser	Arg	Lys	His	Thr	Gly	Glu	Lys	Pro	Tyr	Gln	Cys	Asp	Phe	Lys		
		355					360					365					
Asp	Cys	Glu	Arg	Arg	Phe	Phe	Arg	Ser	Asp	Gln	Leu	Lys	Arg	His	Gln		
		370				375				380							
Arg	Arg	His	Thr	Gly	Val	Lys	Pro	Phe	Gln	Cys	Lys	Thr	Cys	Gln	Arg		
385				390						395					400		
Lys	Phe	Ser	Arg	Ser	Asp	His	Leu	Lys	Thr	His	Thr	Arg	Thr	His	Thr		
			405						410					415			
Gly	Glu	Lys	Pro	Phe	Ser	Cys	Arg	Trp	Pro	Ser	Cys	Gln	Lys	Lys	Phe		
		420						425					430				
Ala	Arg	Ser	Asp	Glu	Leu	Val	Arg	His	His	Asn	Met	His	Gln	Arg	Asn		
		435					440					445					
Met	Thr	Lys	Leu	Gln	Leu	Ala	Leu	Leu	Asn	Asn	Met	Leu	Ile	Pro	Ile		
		450				455					460						
Ala	Val	Gly	Gly	Ala	Leu	Ala	Gly	Leu	Val	Leu	Ile	Val	Leu	Ile	Ala		
465				470						475					480		
Tyr	Leu	Ile	Gly	Arg	Lys	Arg	Ser	His	Ala	Gly	Tyr	Gln	Thr	Ile			
			485						490					495			

<210> 410

<211> 504
 <212> PRT
 <213> Homo sapiens

<400> 410

Met	Gln	Ile	Phe	Val	Lys	Thr	Leu	Thr	Gly	Lys	Thr	Ile	Thr	Leu	Glu
1				5					10					15	
Val	Glu	Pro	Ser	Asp	Thr	Ile	Glu	Asn	Val	Lys	Ala	Lys	Ile	Gln	Asp
			20					25					30		
Lys	Glu	Gly	Ile	Pro	Pro	Asp	Gln	Gln	Arg	Leu	Ile	Phe	Ala	Gly	Lys
		35					40					45			
Gln	Leu	Glu	Asp	Gly	Arg	Thr	Leu	Ser	Asp	Tyr	Asn	Ile	Gln	Lys	Glu
	50					55					60				
Ser	Thr	Leu	His	Leu	Val	Leu	Arg	Leu	Arg	Gly	Ala	Met	Gly	Ser	Asp
65					70					75					80
Val	Arg	Asp	Leu	Asn	Ala	Leu	Leu	Pro	Ala	Val	Pro	Ser	Leu	Gly	Gly
				85					90					95	
Gly	Gly	Gly	Cys	Ala	Leu	Pro	Val	Ser	Gly	Ala	Ala	Gln	Trp	Ala	Pro
			100					105					110		
Val	Leu	Asp	Phe	Ala	Pro	Pro	Gly	Ala	Ser	Ala	Tyr	Gly	Ser	Leu	Gly
		115					120					125			
Gly	Pro	Ala	Pro	Pro	Pro	Ala	Pro	Pro	Pro	Pro	Pro	Pro	Pro	Pro	His
	130					135						140			
Ser	Phe	Ile	Lys	Gln	Glu	Pro	Ser	Trp	Gly	Gly	Ala	Glu	Pro	His	Glu
145					150					155					160
Glu	Gln	Cys	Leu	Ser	Ala	Phe	Thr	Val	His	Phe	Ser	Gly	Gln	Phe	Thr
			165						170					175	
Gly	Thr	Ala	Gly	Ala	Cys	Arg	Tyr	Gly	Pro	Phe	Gly	Pro	Pro	Pro	Pro
		180						185					190		
Ser	Gln	Ala	Ser	Ser	Gly	Gln	Ala	Arg	Met	Phe	Pro	Asn	Ala	Pro	Tyr
	195					200						205			
Leu	Pro	Ser	Cys	Leu	Glu	Ser	Gln	Pro	Ala	Ile	Arg	Asn	Gln	Gly	Tyr
	210					215					220				
Ser	Thr	Val	Thr	Phe	Asp	Gly	Thr	Pro	Ser	Tyr	Gly	His	Thr	Pro	Ser
225					230					235					240
His	His	Ala	Ala	Gln	Phe	Pro	Asn	His	Ser	Phe	Lys	His	Glu	Asp	Pro
				245					250					255	
Met	Gly	Gln	Gln	Gly	Ser	Leu	Gly	Glu	Gln	Gln	Tyr	Ser	Val	Pro	Pro
			260					265					270		
Pro	Val	Tyr	Gly	Cys	His	Thr	Pro	Thr	Asp	Ser	Cys	Thr	Gly	Ser	Gln
		275					280					285			
Ala	Leu	Leu	Leu	Arg	Thr	Pro	Tyr	Ser	Ser	Asp	Asn	Leu	Tyr	Gln	Met
	290					295					300				
Thr	Ser	Gln	Leu	Glu	Cys	Met	Thr	Trp	Asn	Gln	Met	Asn	Leu	Gly	Ala
305					310					315					320
Thr	Leu	Lys	Gly	His	Ser	Thr	Gly	Tyr	Glu	Ser	Asp	Asn	His	Thr	Thr
			325						330					335	
Pro	Ile	Leu	Cys	Gly	Ala	Gln	Tyr	Arg	Ile	His	Thr	His	Gly	Val	Phe
			340					345					350		
Arg	Gly	Ile	Gln	Asp	Val	Arg	Arg	Val	Pro	Gly	Val	Ala	Pro	Thr	Leu
		355					360					365			
Val	Arg	Ser	Ala	Ser	Glu	Thr	Ser	Glu	Lys	Arg	Pro	Phe	Met	Cys	Ala
	370					375					380				
Tyr	Pro	Gly	Cys	Asn	Lys	Arg	Tyr	Phe	Lys	Leu	Ser	His	Leu	Gln	Met

```

385          390          395          400
His Ser Arg Lys His Thr Gly Glu Lys Pro Tyr Gln Cys Asp Phe Lys
          405          410          415
Asp Cys Glu Arg Arg Phe Phe Arg Ser Asp Gln Leu Lys Arg His Gln
          420          425          430
Arg Arg His Thr Gly Val Lys Pro Phe Gln Cys Lys Thr Cys Gln Arg
          435          440          445
Lys Phe Ser Arg Ser Asp His Leu Lys Thr His Thr Arg Thr His Thr
          450          455          460
Gly Glu Lys Pro Phe Ser Cys Arg Trp Pro Ser Cys Gln Lys Lys Phe
465          470          475          480
Ala Arg Ser Asp Glu Leu Val Arg His His Asn Met His Gln Arg Asn
          485          490          495
Met Thr Lys Leu Gln Leu Ala Leu
          500

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<210> 411
<211> 10
<212> PRT
<213> Homo sapiens

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<400> 411
Val Leu Asp Phe Ala Pro Pro Gly Ala Ser
  1              5              10

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<210> 412
<211> 15
<212> PRT
<213> Homo sapiens

```

```

<400> 412
Gln Trp Ala Pro Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala
  1              5              10              15

```

```

<210> 413
<211> 15
<212> PRT
<213> Homo sapiens

```

```

<400> 413
Val Leu Asp Phe Ala Pro Pro Gly Ala Ser Ala Tyr Gly Ser Leu
  1              5              10              15

```